Family Medicine Residency Training—Three or Four Years?

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Opinions about a four-year family practice residency were elicited from a nationally representative sample of three groups of family physicians. Questionnaires were mailed to a random sample of 308 residency graduates aged 30 to 35 years, all 383 residency directors, and a random sample of 319 third-year residents. Two mailings produced an 82 percent response rate.

A four-year residency was favored by 32 percent of recent graduates, 20 percent of program directors, and 34 percent of third-year residents. Over 60 percent of residents and recent graduates would have entered a family practice program had the residency been of four years' duration. Perceived barriers to a four-year residency included lack of resources, loss of appeal, and the additional time commitment. Respondents were most willing to complete a fourth year of residency to receive additional training in orthopedics, obstetrics, gynecology, and pediatrics. Many respondents believed that the additional year would be helpful in obtaining hospital privileges in obstetrics and in coronary care and intensive care units. This study provides information useful in discussions regarding extending residency training.

The three primary care specialties—family practice, internal medicine, and pediatrics—each require completion of a three-year residency for board certification. In recent years a number of medical and surgical specialties and subspecialties have increased the lengths of their residencies, including radiology, anesthesiology, and otolaryngology.[1–3] Other specialties are considering lengthening their residencies.[4,5] This trend is, no doubt, partially in response to the current explosion of medical knowledge. The issue of lengthening the residencies in primary care specialties has not received attention in the literature.

Family physicians address a large variety of clinical problems and need to be cognizant of a wide breadth of medical knowledge.[6] A three-year residency period may not be optimal to become proficient in certain clinical skills and to master this large knowledge base.[7] The primary care specialties, especially family practice, might therefore consider the need for additional training.

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To address the issues involved in lengthening the family practice residency, the views of several groups of family physicians were sought regarding the optimal length of training in family medicine. Opinions were solicited also regarding whether the respondents would favor a change to a four-year program, and in which areas additional training might be desired.

METHODS

A questionnaire was developed to assess beliefs about the length of family practice residencies and was pretested on a small sample of family practice residents and family physicians. Three parallel versions were developed, each asking essentially the same questions but individually modified to fit the three groups. The first group was a random national sample of 308 residency program graduates aged 30 to 35 years who completed their residencies from 1977 to 1985. The second group included all 383 family practice residency program directors in the United States. The third group was a random national sample of 319 third-year family practice residents in training (class of 1985–86), representing 13.2 percent of all third-year residents of that year. All samples were drawn from the

master database of the American Academy of Family Physicians (AAFP).

The respondents were asked to indicate the optimal residency length (two, three, or four years), and whether they would favor a shift to four years. An open-ended listing of barriers to a four-year residency was requested. Recent graduates and residents were also asked whether they would have chosen a family practice residency had it been of four years' duration, and program directors were asked to estimate the percentage of their residents who would not have chosen a residency in family practice had it been four years.

Recent graduates and residents were then asked whether they would definitely, possibly, maybe, or not be willing to complete a fourth year to receive additional training in 14 areas. Training in these disciplines is needed to deal with diagnoses encountered frequently in a family physician's practice.[6,8,9] Program directors were asked how much more training they would like their residents to have in these areas (much more, some more, slightly more, or none). Recent graduates were asked whether they had hospital privileges in medicine, pediatrics, surgery, obstetrics, and coronary care or intensive care units (CCU/ICU). Residents were asked whether they would seek privileges in these areas, and program directors were asked to estimate the percentage of their graduates who had hospital privileges in these areas. For the same five areas, all three groups were asked whether an additional year of training would assist in obtaining privileges.

All three groups provided their sex, age, state in which their residency program was located, and type of residency program (university, community [university administered, university affiliated, or nonaffiliated], or military). Program directors indicated how long they had directed the program. Recent graduates were asked the year they had completed their residency and the state and size of the community in which they currently practiced, self-designated by the respondent as urban, suburban, small town, or rural. States were grouped for analysis into the standard four US Census Bureau geographical regions: Northeast, South, Midwest, and West.[10]

There was one follow-up mailing to nonrespondents. The data were analyzed using chi-square as a measure of statistical significance.[11] Missing values were excluded from analysis for all questions.

RESULTS

The response rates were recent graduates 79 percent, residency directors 89 percent, and third-year residents 75 percent, for an overall response of 82 percent. Characteristics of the three different groups in the sample are presented in Table 1. These demographics are representative of program directors, third-year residents, and recent graduates of family practice residencies.[12]

Seventy-three percent of the respondents believed a three-year program is optimal, while 25 percent believed four years would be preferable. Only 2 percent supported a two-year residency. There was no statistically significant difference between the three groups of respondents (Table 2).

Almost three quarters of all the respondents stated they would not favor a change to a four-year program (Table 2). Compared with the directors, significantly more residents and recent graduates favored a change to a four-year residency ($P < .001$). Younger directors, however (aged less than 40 years), gave responses similar to those of recent graduates and residents, with 31 percent favoring a change to the four-year residency, compared with 14 percent of the older directors ($P < .01$).

Twenty-two percent of recent graduates stated that they practiced in rural areas, and they believed more frequently that a four-year program was optimal ($P < .05$). There was also a nonsignificant trend for recent graduates practicing in rural areas to favor a change to a four-year residency. The region of the country in which the respondents' residency was located, the region in which the recent graduates were practicing, the type of residency program, and the respondents' sex were not significantly related to opinions regarding optimal length or change in length of residency.

Approximately 60 percent of the directors believed a majority of their residents would not have chosen family practice had it been a four-year residency. Directors were four times less likely to be in favor of a four-year program if they believed more than one half of their residents would not have chosen a four-year family practice residency. Only 7 percent of the directors believed that more than 90 percent of their residents would have entered a four-year family practice residency, but one half of these directors favored a change to four years.

Directors underestimated the residents' and recent graduates' willingness to complete the longer residency. Overall, 63 percent of the recent graduates and 65 percent of the residents stated they would have specialized in family practice even had it required completion of a four-year residency. Of those residents and recent graduates who favored the change to a longer residency, almost 90 percent would have completed such a program.

Respondents were asked to list what they believed would be the greatest barrier to a four-year residency. There were 807 comments made. The five barriers mentioned most frequently were (1) resources (economic, faculty), 33 percent; (2) appeal to residents and potential applicants, 25 percent; (3) the additional time commitment, 14 percent; (4) the feeling that the additional year

TABLE 1. SAMPLE CHARACTERISTICS OF RESPONDENTS

Characteristic	Recent Graduates (n = 242) Percent	Program Directors (n = 342) Percent	Residents (n = 240) Percent
Sex			
Male	88.4	94.7	77.9
Age (mean years)	32.7	46.8	30.3
Residency region*			
Northeast	16.8	21.3 (20)**	17.2 (18)**
South	40.6	31.5 (33)	33.1 (33)
Midwest	29.5	31.5 (31)	35.1 (32)
West	13.1	15.7 (16)	14.6 (17)
Type of program**			
University	18.9	15.3 (17)	14.3 (21)
Community, university administered	14.3	17.9 (15)	11.3 (15)
Community, university affiliated	51.7	55.6 (54)	57.1 (51)
Community, unaffiliated	10.1	7.1 (10)	13.9 (8)
Military	5.0	4.1 (4)	3.5 (5)
Practice region*			
Northeast	13.6		
South	40.5		
Midwest	25.2		
West	20.7		
Practice location			
Rural	21.7		
Small town	32.1		
Suburban	22.9		
Urban	23.3		

** Grouped by state into US Census Bureau regions*
*** Numbers in parentheses indicate the national percentages as calculated from the 1986 directory of family practice residencies*

TABLE 2. PREFERENCES OF OPTIMAL LENGTH OF RESIDENCY BY GROUP

Group	Three Years Optimal No. (%)	Favor Change to Four-Year Program* No. (%)
Recent graduates	241 (71.0)	225 (32.4)
Program directors	340 (77.6)	313 (20.4)
Residents	240 (68.3)	228 (33.8)
Total	821 (73.0)	766 (27.9)

** $P < .001$ difference between respondent groups*

was not necessary, 11 percent; and (5) deciding what the actual curriculum should be, 8 percent. The only difference among the three groups was that the directors thought the resource issue was most important, while the residents and recent graduates believed that appeal to residents and applicants was primary.

The areas in which additional study was desired was examined next. Respondents favoring a change to four years would definitely have completed another year for additional training in the areas listed in Table 3. The areas are presented in descending order for recent graduates. Significant differences existed between the three respondent groups in 10 of 14 areas in which additional training was desired. Except for geriatrics, which was very highly desired by the directors, the rank orders were very similar for all groups. Orthopedics, obstetrics, gynecology, and pediatrics ranked four out of the top five for both residents and recent graduates.

A similar list was generated from those respondents not in favor of a four-year program (Table 3). There are many similarities in the rank order between those who favor the change to four years and those who do not. Those who favor the change were three to nine times more willing to complete a fourth year for more training in these areas compared with those who did not favor the change.

Several significant differences were noted (all $P < .05$) in the desired training by size of the community in which recent graduates practice and the type of residency program. When compared with other recent graduates, those practicing in rural areas were more willing to complete a fourth year for additional training in surgery, orthopedics,

TABLE 3. PERCENTAGE DEFINITELY WILLING TO COMPLETE A FOURTH YEAR FOR ADDITIONAL TRAINING IN 14 AREAS BY GROUP

Subject	Recent Graduates (n = 242)	Program Directors (n = 342)	Residents (n = 240)
Those favoring a change to four years			
Orthopedics*	54.3	27.0	45.3
Obstetrics*	48.6	16.4	50.0
Gynecology*	45.6	15.5	49.3
Dermatology**	40.9	19.7	40.0
Pediatrics*	40.6	11.7	53.3
Medicine*	37.3	4.9	44.6
CCU/ICU*	36.9	13.3	33.8
Geriatrics	34.8	41.7	28.4
Medical subspecialty	30.2	11.9	36.1
Surgery*	29.0	5.2	27.0
Otolaryngology*	28.8	6.6	21.9
Ophthalmology*	22.7	3.3	18.1
Neurology	20.9	8.5	15.1
Psychiatry	14.9	1.5	17.8
Those not favoring a change to four years			
Obstetrics*	13.2	3.5	13.7
Surgery*	10.7	1.7	7.0
Gynecology	9.9	5.2	9.0
CCU/ICU*	7.9	1.7	8.2
Geriatrics	7.8	6.4	8.9
Orthopedics*	6.9	7.3	15.6
Dermatology	6.4	4.3	8.3
Medicine*	5.8	0.4	6.2
Pediatrics*	5.7	1.3	7.6
Otolaryngology**	5.0	0.9	5.5
Neurology	3.7	1.3	4.9
Medical subspecialty	3.6	1.7	4.2
Ophthalmology**	3.6	0.4	5.5
Psychiatry*	2.2	2.1	4.9

** P < .01 difference between respondent groups*
*** P < .05 difference between respondent groups*
CCU/ICU—coronary care unit/intensive care unit

dermatology, geriatrics, and CCU/ICU. Graduates of university-based residencies were more willing to undergo additional training in dermatology, ophthalmology, and otolaryngology. Residents attending military-based programs were more willing to complete additional training in geriatrics, and directors of military programs wanted "much more" training in orthopedics for their residents. There were no significant differences in willingness to complete an additional year of training by geographical location of the residency or by the region in which the recent graduate practiced.

Respondents in favor of a four-year program more often believed a fourth year would help in obtaining hospital privileges compared with those opposed to a four-year program ($P < .001$ for all groups). Of interest, there was no relationship between preferring a fourth year and having privileges (or plans to seek privileges) in these areas.

DISCUSSION

The lengths of residencies have been expanded recently in several specialties.[1–3] Little has been written, however, about expanding the lengths of primary care residencies, although the topic has been debated at conferences and in other forums. Increasing the length of training in family practice could have far-reaching implications for the health care system in the United States. This study addresses the issue by providing data from a large sample of family physicians.

The majority of respondents favored the current three-year family practice residency, although a substantial minority support the change to four years. Residency directors were substantially less likely to favor a change than residents and recent graduates. One explanation might be the directors' perceptions that few students would choose

a four-year family practice residency. The more directors doubted whether residents would have chosen a four-year residency, the less likely they favored the change themselves. Sixty-five percent of residents and 63 percent of recent graduates in this study would still have chosen family practice had it been a four-year program.

Younger directors were similar to residents and recent graduates in favoring the change to four years. This finding may be due to the greater likelihood that younger directors would have completed a residency and therefore would be more likely to evaluate the three-year program similarly to recent graduates and current residents. Younger directors are also less likely to have extensive practice experience and may therefore emphasize the academic aspects of family practice residency training.

Residents and recent graduates who favored a change to four years were most willing to complete a fourth year to receive additional training in orthopedics, obstetrics, gynecology, pediatrics, and geriatrics. Neither internal medicine nor its subspecialties were among the top preferences for additional training. There has been some discussion regarding a combined family practice-internal medicine residency.[13,14] The findings in this study suggest that family physicians are not willing to complete a fourth year of residency so as to receive additional training in internal medicine. Having hospital privileges in internal medicine or CCU/ICU had no significant bearing on this opinion.

Many respondents suggested the fourth year be optional, designed to meet the specific needs of residents who wish to develop an expertise in a specific area or areas. Some suggested the development of four-year programs to train residents committed to practicing obstetrics. A recent development in family medicine has been the advent of fellowships available after completion of a residency. Almost 100 fellowship positions are available each year.[15] While most programs emphasize faculty development skills, such as research and teaching, many offer training in clinical areas (obstetrics, geriatrics, sports medicine).

Others suggested an additional year would be especially valuable for those planning to practice in a rural community. Recent graduates practicing in rural areas were more likely to believe four years was the optimal training length, and almost 50 percent favored a change to a four-year program. These graduates were more willing to complete a fourth year to receive additional training in surgery, orthopedics, dermatology, geriatrics, and CCU/ICU. Physicians in rural areas, because of their relative isolation, may treat problems that physicians in more populated areas might refer to a consultant.

Completing a fourth year of residency would probably influence obtaining hospital privileges for family physicians in various departments.[16] Respondents in favor of the change to a four-year program were more likely to believe the additional year of training would assist them in obtaining such privileges.

The Graduate Medical Education National Advisory Committee (GMENAC) report[17] stated that a shortage of primary care providers exists in the United States. Recent literature examines steps that might be taken to assure sufficient numbers of adequately trained primary care providers.[18,19] Geyman[19] points out the considerable overlap between primary care specialists, with family physicians, pediatricians, and general internists sharing large areas of knowledge and skills. He suggests that one solution to the projected shortage could be the creation of a single generic primary care physician. This study reveals that many family physicians would be willing to complete an additional year of training so that added knowledge in primary care could be acquired (including obstetrics-gynecology and pediatrics). With additional training in these areas, family physicians might then assume the role of that single primary care provider.

Despite the potential for an expanded program, barriers exist in implementing such a change. Other specialties expanded the length of their training programs only after considerable debate, and controversy regarding the expansions still exists.[20–22] The major barriers perceived by the respondents in this study were resources (economic, personnel), appeal to residents and medical students considering family practice as a career choice, and the additional time commitment. It costs $57,471 per year to train a family practice resident.[23] Limiting the funding of residents to the first three years of their training has been proposed.[24] Should a fourth year be developed, additional funding sources would need to be obtained.

There are several limitations to this study. Only recent graduates were questioned, so comments cannot be made regarding opinions of family physicians in practice for longer periods of time. The number of years recent graduates have practiced could have influenced their responses, but these data were not collected. Respondents were specifically asked about a four-year program, as opposed to some other number. Although respondents were questioned about their willingness to complete a fourth year to receive additional training in certain areas, the specific skills that they would seek were not addressed. Respondents, therefore, may not be uniform in what they wish to accomplish with the additional training. Finally, all surveys risk the possibility that a respondent's answers are incongruent with their actual beliefs.

In summary, almost 75 percent of the family physicians surveyed believed that three years of residency training is optimal. About 25 percent favored a change to a four-year residency, with significantly less support from program directors than recent graduates or third-year residents. Respondents were willing to complete an additional

year of residency to receive more training in several areas of primary care. Changing the length of family practice residencies could have a great impact upon the health care delivery system of the United States. This study provides information useful in discussions of such a change.

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